



## Army Installation Geospatial Information and Services (IGI&S) Program Overview

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## Purpose:

- IGI&S Program Overview
- Goals
- Focus
- Accomplishments
- Planned FY07 Efforts
- Upcoming Changes



## OACSIM Mission

Provide policy guidance and program management on all matters relating to overall management and resourcing of Army installations worldwide. Ensure the availability of efficient, effective base services and facilities.

**All things Installations**





## ARMY UNIVERSE – FY07

### Land Acreage

- United States – 13,806,840
- Europe – 161,782
- Asia – 28,676
- Other Overseas – 15,235

### Roads

56,487 miles

### Paved Area

440 Million SY

### Railroads

2,643 miles

### Family Housing Units

- Owned - 37,879
- Leased - 12,874
- Privatized - 72,825

### Barracks Requirements

136,000 Soldiers

### PRV

\$251B

### Army Installations:

• IMCOM	74
• Reserves	4
• National Guard	45
• AMC	26
• Other	5

### Army End-Strength

Active -	488,600
USAR -	189,000
ARNG -	333,200
Civilians-	209,400

### Army Demographics

**54% married**  
**9.1% dual military**  
**6.9% single parents**  
**712,815 family members**

### Environmental Clean-up Remaining

*(Installation Restoration Program & Military Munitions Response Program)*

- Active Sites – 1,540
- BRAC Sites - 285
- Formerly Used Defense Sites – 2,189

### Airfields

- 141 Fixed Wing
- 739 Heliports

### Buildings

(million square feet)

- United States - 770
- Europe - 150
- Asia – 46
- Other - 7

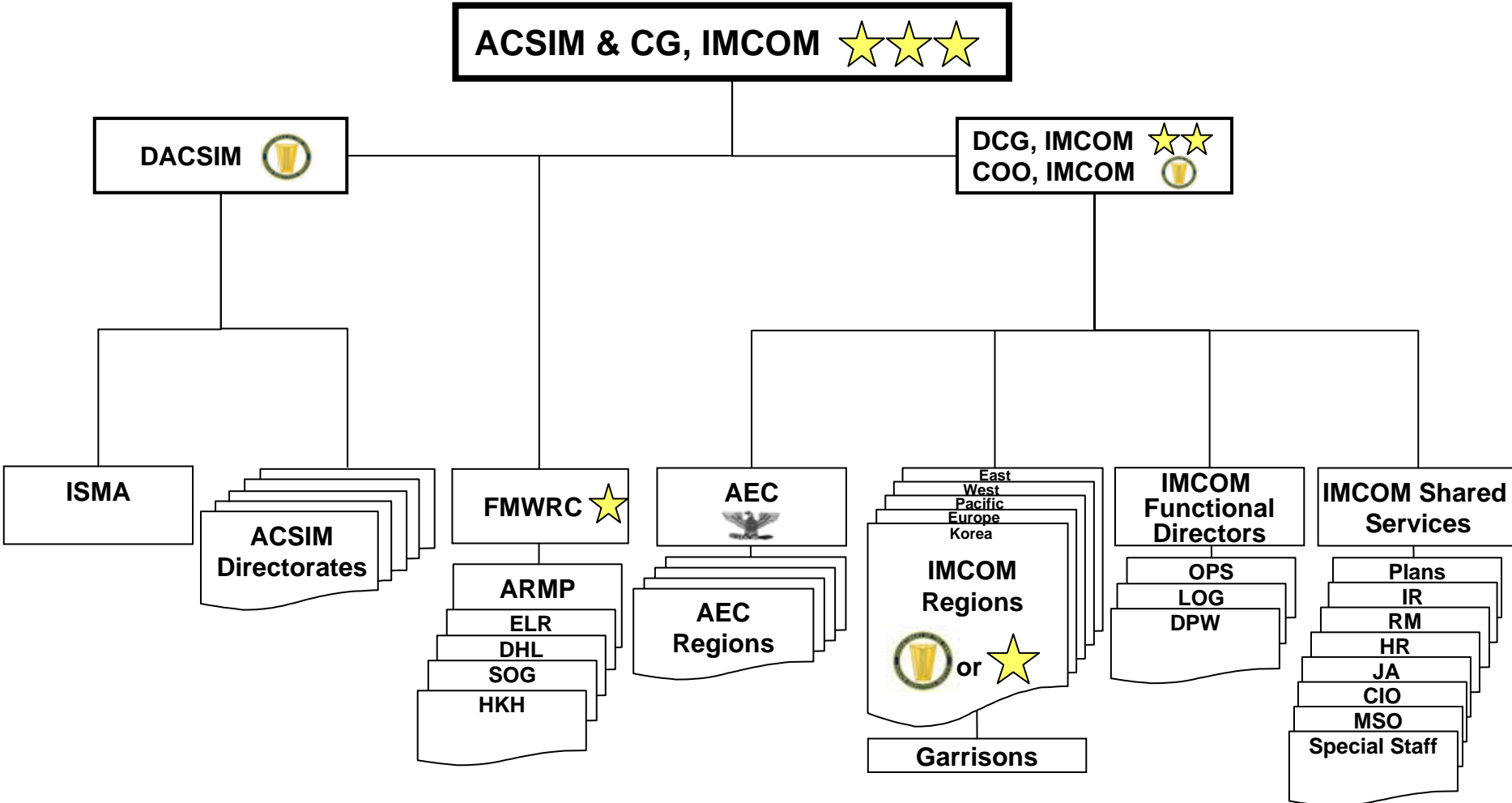
### Utilities

- Electric, gas, water and sewer
- 47,803 miles

**FY 06 Installation Management Resources = \$15B per year**



## Organizational Structure



As of 25 SEP 06



## IGI&S Program Background

- **2001 GISR established as repository for standardized GIS data for installations and environment**
- **2001 - 2006 – Establish IGI&S Program and integrate with OSD/Defense Installation Spatial Data Infrastructure (DISDI)**
- **2004 - GISR expanded to support BRAC 05 through the Installation Visualization Tool (IVT)**
- **2006 – Building standard IGI&S capability**



## IGI&S Program Drivers

- **EO 12906**
  - Requirement to standardize documentation of Geographic Information Systems (GIS) data
  - Requirement for enterprise access of GIS data documentation
- **OMB A-11**
  - Requirement to track and report IT expenditures through a portfolio management system
- **SECARMY Memo 80% reduction**
  - Consolidate GIS servers
  - Reduce redundant/stovepipe GIS system
- **AAA Audit on Range Inventory**
  - Reconcile geospatial range data with Real Property data
  - DACSIM (Ms. Menig) directed compliance
- **I&E Enterprise Transition Plan (ETP)**
  - Identify and consolidate GIS capabilities into the enterprise
  - Common geospatial standards by May 07
  - GIS consolidation plan by June 07
  - Common GIS capability by September 2009
- **Real Property Requirements**
  - Environmental Liabilities reconciliation with real property assets
  - Land reporting by acquisition parcel (Federal Real Property Council (FRPC)/EO 13327)
- **DoD Guidance**
  - Defense Installation Spatial Data Infrastructure (DISDI) standardization of GIS data
  - Compliant with other Services GIS initiatives





## Army IGI&S Goals

1. Provide basic I&E geospatial capability Army-wide via the GISR using data from across HQDA, OACSIM and Garrisons.
2. Develop standard I&E GIS data and functionality
3. Increase availability of the GIS capabilities to all users
4. Eliminate redundant GIS capabilities by 30 SEP 09







## OACSIM/IMCOM GISR Goals

1. Provide basic I&E geospatial capability Army-wide via the GISR using data from across HQDA, OACSIM and Garrisons.
2. Develop standard I&E GIS data and functionality
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4. Eliminate redundant GIS capabilities by 30 SEP 09





## IGI&S Program Focus

- Establishing lines of communication
  - DISDI to OACSIM to IMCOM to Regions to Garrisons
- Institutionalizing IGI&S
- Partnering with other Services
- Coordinating across HQDA
- Integrating with war fighter
- Populating GISR
- Supporting migration to standard Army GIS solution
- Establishing Army IGI&S standards





## FY06 IGI&S Accomplishments

- **Drafted GIS data and metadata standards for installations**
- **Established central GIS repository of standardized I&E GIS data**
  - Cataloging 65,000 GIS data files from installation data calls
  - Drafted GIS data layer proponentcy list and quality assurance plans
- **Established centralized configuration control of GIS application**
  - Foundation for installation enterprise GIS capability
  - First Common Access Card (CAC)/Single Sign On (SSO) enabled application within OACSIM
  - Developing consolidation methodology and consolidating up to 12 GIS systems, completion by Sep 07
  - Building capabilities to create and submit standardized GIS data from installations
- **Established GIS BPA contract vehicle**
  - Reduced GIS software costs by 4% across I&E domain
- **Migration Phase I Initiated**
- **Integrated with Sustainable Range Program (SRP)**



## Planned FY07 Efforts

- Data Standardization
- Migration
- Lean Six Sigma for IGI&S
  - Funding
  - Roles and Responsibilities
  - Organization Structure
- Finalize IGI&S regulation
- Coordination with DISDI





## Army IGI&S System Overview

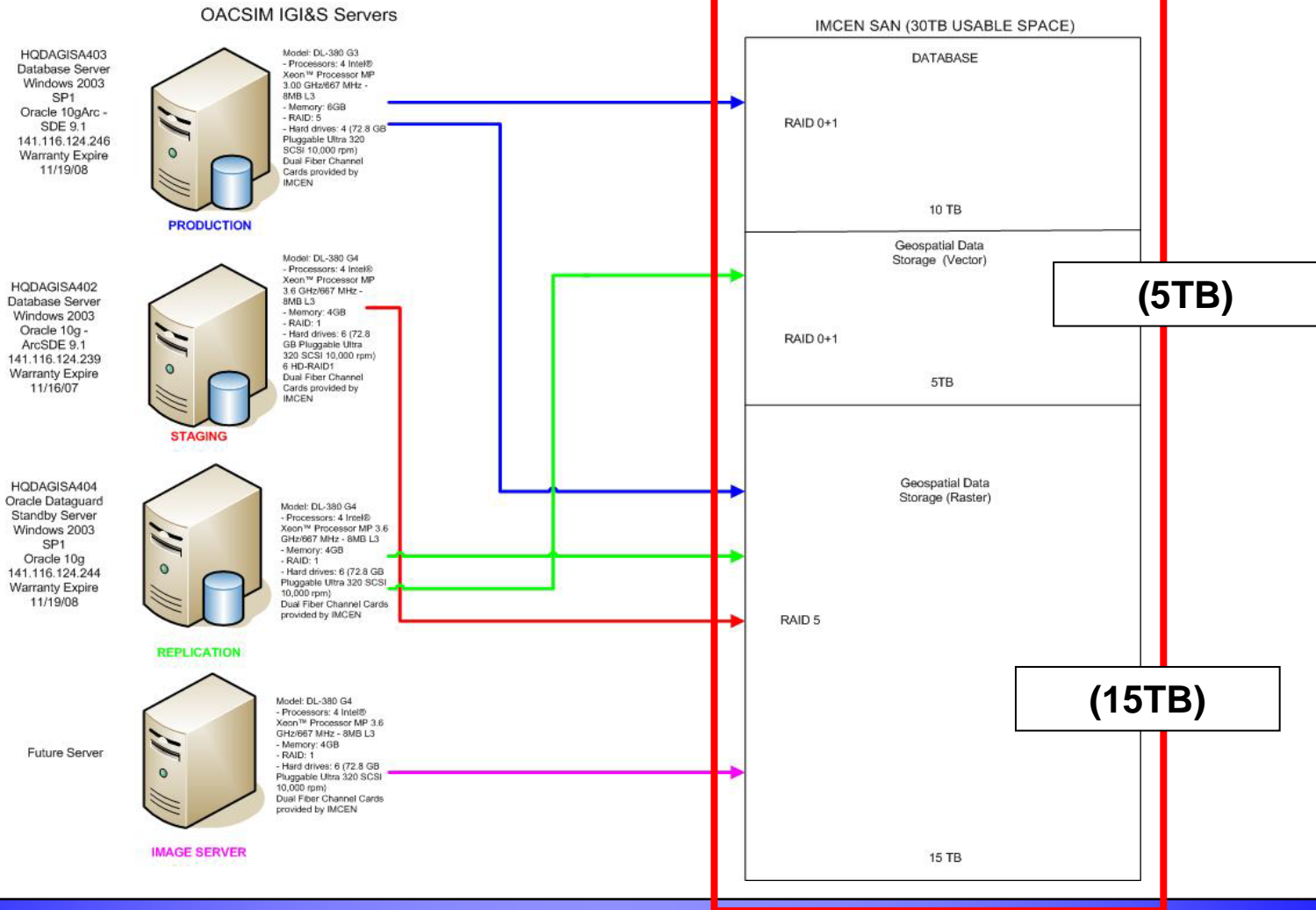


- Army enterprise geospatial solution with two components
  - Geospatial Database of Record: Geographic Information System Repository (GISR)
    - Maintains installation geospatial data layers
    - All I&E (includes SRP/ITAM) spatial data will be stored within GISR
  - GIS Application: ... also called GISR
    - <https://gis.hqda.pentagon.mil/>
    - Online GIS visualization and analysis tool for I&E domain utilization
    - Limited scope: designed to support IVT/BRAC



## GISR Database

**30TB SAN STORAGE**



**(5TB)**

**(15TB)**

## GISR Application



https://gis.hqda.pentagon.mil - US Army GIS Repository - Microsoft Internet Explorer provided by FORSCOM

**GISR**  
US ARMY

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**LAYERS** **LEGEND**  
[ Expand All ]

- [Installation Basemap](#)
- [Hydrography](#)
- [Raster Imagery](#)
- [Transportation](#)
- [Political Boundaries](#)
- [Landuse](#)

Map: -84.42, 33.71 -- Image: 504, 277 -- ScaleFactor: 0.0000402593193095223

2213 Visits 1:17,206

Internet zone

## What have we accomplished?



- AKO Single Sign On and CAC enabled site
- The Army BRAC Division analysis
  - This supports the creation of real property parcels to facility property transfer for closing installations



ID	SDZ Name	DODIC	Weapon Description
55	9	A011	12 Gauge, 00 Buckshot
67	Jim 7.62	A136	7.62mm, Spec Ball M118
54	test	A011	12 Gauge, Slug
65	testMandPete	A011	12 Gauge, 00 Buckshot
62	test	A011	12 Gauge, 00 Buckshot
61	test2	A011	12 Gauge, 00 Buckshot



- SRP Mapper Prototype Development
  - This includes hosting a web-based SDZ tool as well as the use of Fort X Special symbology and map printing capability





## Where are we going?

- Data Upload and Download
- Business System Integration
- Data Creation Tools
- New Data Model
- Redesigned User Interface

**ON HOLD!!!**

**What's the Deal?  
WHY???**





## The Answer...

- **Army System Migration**

- DoD and Army requirement for a single solution to support business mission transformation at installations and headquarters

- Develop a common geospatial system that supports installation geospatial requirements

- System will consist of two components:
  - Geospatial Database = GISR
  - Application = Army Mapper





## Migration Phases

- Phase I – Basic IGI&S Capability
- Phase II – Consolidate
  - Analyze existing systems for best of breed capabilities
  - Develop target GIS architecture due January 07
  - Develop standard GISR based on target architecture (Initial operating capability Sep 2007)
- Phase III – Develop full data and analysis capabilities to “Army Mapper”
- Phase IV – Expand support to additional business processes





## The Questions

- Who came up with this idea?
- How to build a system that supports the stakeholder requirements?
- Who is involved in this effort and who is impacted?
- What happens to legacy systems?
- What capability will the system support?
- Where is my data stored?
- Are we crazy?
- ?



# 2007 IGI&S Program Overview



## Army IGI&S Website

<https://gis.hqda.pentagon.mil>

The screenshot shows the Army Installation Geospatial Information & Services (IGI&S) website. The browser address bar shows <https://gis.hqda.pentagon.mil>. The page title is "ARMY INSTALLATION GEOSPATIAL INFORMATION & SERVICES". The date is Wednesday, August 02, 2006.

**Welcome**

The mission of the Installation Geographic Information and Services (IGI&S) program office is to ensure the availability of the Army installation geospatial data infrastructure by providing policy guidance, program management, geospatial information technology, data and services that support the overall management and resourcing of Army installations worldwide and the mission of the Army.

The IGI&S program is responsible for developing and maintaining the Army's Geographic Information System Repository (GISR) as part of its programmatic functions. The GISR is the Office of the Assistant Chief of Staff for Installation Management (OACSIM) geospatial database of record and the Headquarters Department of the Army (HQDA) repository for installation-related geospatial data. Data contained in the GISR will be made available to other Army information systems via a variety of geospatial services that are evolving based on the Department of Defense's Net Centric Data Strategy and the OACSIM's emerging enterprise architecture for the Army Installations and Environment (IAE) domain.

The GISR is used by OACSIM and the Army I&E domain to support installation management lifecycle functions. Currently, the GISR is used to support visualization of geographic data related to Army installations and the overarching I&E domain. (A link to the GISR data visualization service is provided above. Access to this service requires AKO authentication) As installation data availability increases and additional users require greater functionality, it can be expected that enhancements will be required for the GISR to continue to support critical policy and budgetary decisions in the Army I&E domain.

**Background**

The Office of the Assistant Chief of Staff for Installation Management (OACSIM) is responsible for the installation management mission across the Army. Data related to installation management, mission capability, installation infrastructure investment, troop garrisoning, and environmental restoration across the Army are maintained in a variety of information systems across the OACSIM and its field operating agencies (FOAs). (These FOAs include the Army Environmental Center (USAEC) and the Installation Management Agency (IMA), which has headquarters and regional organizations across the CONUS and OCONUS.) OACSIM recognized that geospatial systems offered a significant opportunity to increase its ability to visualize information related to installation conditions and needs. To capitalize on this opportunity, the OACSIM created the Installation Geographic Information and Services (IGI&S) program and an associated Geographic Information Officer (GIO) position. As director for the IGI&S program, the OACSIM Geographic Information Officer (GIO) is responsible for (1) establishing policy and guidance for geospatial information systems across the Army I&E community, and (2) establishing and maintaining the GISR.

**Recent System Updates**

The IGI&S is working to determine and respond to end-user and stakeholder requirements since GISR's inception. Even today, the GISR continues to evolve due to the increasing number of requirements received from diverse constituents to modify or incorporate new functionality. With the requirements of the Department of Defense's Business Management and Modernization Program (BMMP) and forthcoming OACSIM enterprise architecture and Army I&E domain governance requirements, new emphasis is being placed on consolidating information management functionality and systems development efforts across the Army. System updates associated with the GISR are focused on enabling data sharing across the Army I&E domain and improving the geospatial capabilities associated with Army installation management activities to create a geospatially aware Army installation enterprise.

**Current and Planned Updates:**

- Complete 1 meter and 5 meter **vector data** upload to the GISR. GISR now holds approximately 3 terabytes of raster data providing 5-meter coverage of the Continental United States (CONUS) and 1-meter coverage of \_\_\_ of the installations within the CONUS.
- Installation-level metadata search capability for data contained in the GISR. This capability allows GISR users to identify data related to specific Army installations based on a variety of installation data parameters.
- GISR security service. This capability allows GISR to restrict access to Army I&E geospatial capabilities at three levels: (1) data, (2) functional capability, and (3) location. All forthcoming GISR capabilities will be protected using this service security.
- Inclusion of web-based geospatial data authoring and data loading capability. This will allow users to create polygons representing specific data layers via the world wide web as well as load shape files via a web-based interface. These data will then be processed by IGI&S personnel for inclusion in the GISR.
- Consumption of Open Geospatial Consortium (OGC) Web Coverage Services. This capability will allow GISR to dynamically enhance its vector and raster data holdings while leveraging the impact to the repository's storage footprint.
- Support for (TAM Europe) 3D data visualization capability. This capability will support both the OACSIM installation management mission as the Army G3 training mission.
- Integration of real property data into the GISR. This will allow GISR users to view geospatial data associated with the Army real property assets and the business (attributed) data contained in OACSIM systems such as HQEIS and IFD.
- Integration with the Installation Status Report (ISR) system. GISR will visualize data related to installation mission capability as documented in the ISR system. This will allow users to integrate ISR findings into a variety of Army I&E business data sets.
- GISR BRAC support. GISR will be extending the web-based service supporting the OACSIM BRAC D office in the next three months.

**IGI&S News and Events**

Survey Results will be posted soon  
Upcoming data calls due



## Questions?

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